REMARKS

Claim objections

The Examiner has objected to claim 1 as unclear as to the meaning of the term "a front side." The present amendment clarifies the claim by amending it to instead recite "an end thereof", and this is believed to rectify any objectionable aspect of the claim.

Prior art rejections

Independent Claim 1 and its dependent claims 2 to 21 have been rejected under 35 U.S.C. 103 as being unpatentable over Sterling et al. (U.S. Patent No. 4,195,980), in argued combination with Zilnyk (U.S. Application Publication 2004/02096128) and, for certain dependent claims, in further argued combination with Moridaira et al. (U.S. Application Publication 2005/0204780) and Fabian et al. (U.S. Patent No. 7,028,508).

Claim 1 has here been amended to clarify its language to better express the invention, rather than for purposes of distinguishing over the prior art. Claim 1 clearly does not read on the prior art or any obvious extension thereof, and reconsideration of the rejection is respectfully requested.

Claim 1 as amended recites a method for producing an optical component of quartz glass, where the method comprises elongating a coaxial arrangement of a core rod and a hollow cylinder of a predetermined length, wherein the coaxial arrangement is supplied in vertical

orientation to a heating zone and is softened therein zonewise, starting with a lower end thereof. The component is drawn off downwards from a softened region. The hollow cylinder has an inner bore therein, and in a region of the lower end is provided with a constriction in the inner bore on which the core rod is supported. The first upper hollow cylinder is fused at an end thereof with a second lower hollow cylinder so as to form an axial cylinder composite. The core rod is introduced into the lower hollow cylinder and the axial cylinder composite is supplied to the heating zone, starting with its lower end, and is softened therein zonewise and elongated so as to form the optical component. A drawing bulb is formed as the axial cylinder composite is softened and elongated, and the drawing bulb progresses in the cylinder composite to the first upper hollow cylinder. Within the drawing bulb, the inner bore is collapsed at least in part, so as to produce the constriction of the inner bore. The first upper hollow cylinder is separated at a separation plane in an area of the constriction therein from the withdrawn optical component so that the separated first upper hollow cylinder has the constriction at an end thereof. The first upper hollow cylinder is subsequently combined with a second core rod supported on the constriction in a second coaxial arrangement, and the second coaxial arrangement is elongated so as to produce a second optical component.

This combination provides for the significant advance over the prior art in that the constriction of the upper hollow cylinder is formed as part of the elongation process of the lower hollow cylinder with the core rod. This makes a separate step of constricting the end of the upper tube to support a new core rod unnecessary, and consequently reduces the cost of the process.

The prior art fails to suggest such a method.

Sterling recites a method for manufacturing a continuous preform for an optical fiber by first preparing core rods and arranging them end to end and similarly preparing silica sleeving tubes end to end. See Sterling, col. 1, lines 27-39. The core rods are then slipped into the sleeving tubes in a vertical arrangement, and the core rods and sleeving tubes are added successively from the top during the vertical drawing process. Sterling, col. 2, lines 33-38.

Sterling does not teach the separating of two hollow cylinder tubes at a separation plane after the elongation process. In fact, Sterling teaches pushing the core rod and the sleeving tube together and then heating and fusing the arrangement into a continuous preform rod, which may then be drawn into a continuous fiber as shown in FIG. 3. See Sterling col. 1 and 2, lines 65-68 and 3-4. No separation is taught or suggested by the reference.

Furthermore, Sterling does not suggest that a separated cylinder have a constriction that supports a second core rod as recited in claim 1.

Zilnyk teaches a classical rod-in-tube elongation process in which a core rod is inserted into a tube and the two are collapsed together. See, e.g., FIG. 3, part 56. The tube 34 comprises a silica sleeve tube 34(1) and a tube handle 34(2). In Zilnyk, the core rod 30(1) is supported on an annular rib 32 in the handle 30(2). This annular rib is wide enough that it cannot enter the top of the tube 34. See FIG. 3. The core rod of Zilnyk is consequently not supported on a constriction in the inner bore of a hollow tube as required by claim 1.

Zilnyk does not teach two separate cylinders that are contacted by the progressing drawing bulb, as claim 1 requires. Rather Zilnyk teaches use of a tube handle and a tube. The tube handle itself is presumably used to support subsequent tubes, and is not itself constricted in the process, nor is it used with a second core rod to produce a second optical component. As a

corollary, Zilnyk does not suggest separating an upper tube from a lower tube where the upper tube has a constriction in its lower end created by the elongation process.

Zilnyk therefore also does not suggest a method as claimed.

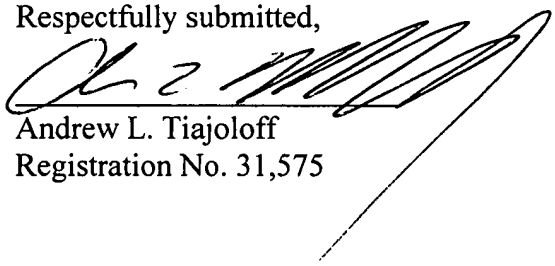
Moridaira et al. and **Fabian** are cited solely for teaching features of dependent claims, i.e., a plunger in the inner bore, beveling of the cylinder, and machining the cylinder to a final dimension. These two references do not impact on the patentability of claim 1 as set out above.

Claims 2 to 21 depend from claim 1 directly or indirectly, and therefore distinguish therewith over the cited prior art.

All claims having now been shown to distinguish over the prior art in structure, function and result, formal allowance is respectfully requested.

Should any questions arise, the Examiner is invited to telephone attorney for applicants at 212-490-3285.

Respectfully submitted,



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